Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
Northeast Regional Office • 205B Lowell Street, Wilmington MA 01887 • 978-694-3200

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Date Stamped May 22, 2014

Mr. William Jorgenson
AGreen Energy, LLC
26 Union Park
Boston, MA 02118

RE: RUTLAND
Transmittal No.: X256969
Application No.: NE-13-017
Class: *SM-25*
FMF No.: 511728
AIR QUALITY PLAN APPROVAL

Dear Mr. Jorgenson:

The Massachusetts Department of Environmental Protection ("MassDEP"), Bureau of Waste Prevention, has reviewed your Non-major Comprehensive Plan Application ("Application") listed above. This Application concerns the replacement of an existing 300 kilowatt (kw) engine with a new 500 kw engine at your Jordan Farms Organic Recyclery which also houses an anaerobic gas digestion system and a back-up flare located at 51 Muschopauge Road in Rutland, Massachusetts ("Facility"). The Application bears the seal and signature of Mr. Michael T. Lannan, Massachusetts Registered Professional Engineer number 45607.

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 "Air Pollution Control," regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-J, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP's review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator ("Permittee") must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. DESCRIPTION OF FACILITY AND APPLICATION

The Facility is located within the footprint of Jordan Dairy Farms in Rutland, Massachusetts. The farm produces raw milk for wholesale distribution to cooperative processing facilities. The farm has approximately 700 cows. The farm also includes 1000 acres of land for corn and hay crops. These fields are currently fertilized via the liquid digestate that is produced by the Facility (see below for further details).

AGreen Energy, LLC ("The Permittee") has installed an anaerobic digestion/biogas-to-energy system (AD system) at the Facility. The AD system consists of one receiving tank with an associated odor control system, one feedstock tank, one digester tank, one liquid digestate tank, a dewatering system, and an open lagoon. The biogas produced in the AD system was originally used to produce electricity and heat via a 300 kilowatt (kw) biogas-fired combined heat and power engine/generator set or is combusted via the back-up utility flare when either excess biogas is produced or the engine/generator set is offline for maintenance or service. Some heat and electricity are being used by Jordan Dairy Farms while the remaining unused electricity is provided to the electric grid. All of this existing equipment was approved by MassDEP via Air Quality Plan Approval, MBR-10-COM-004, dated August 18, 2010. On December 20, 2013, the Permittee and MassDEP entered into an Administrative Consent Order, ACO-NE-13-7003, to facilitate the replacement of the existing 300 kw engine/generator set with a new 500 kw engine/generator set.

The AD system combines the in-house generated cow manure with leftover food and other Source Separated Organic materials (SSO) generated in the greater Boston metropolitan area and delivered to the Facility as liquid slurry.

Quasar Energy Group constructed this AD system. The AD system can accept up to 70 wet tons of biomass (consisting of cow manure and SSO) per day with a total solids content of approximately 15 percent by weight. Operating under this scenario, the Facility is capable of generating up to 500 kilowatt hours (kWh) of electricity and converting 85 percent (%) of the AD system's potential biogas to useable heat and electricity.

The modified anaerobic digestion/biogas-to-energy system is comprised of the following process equipment: an existing Receiving Tank, an existing Feedstock Tank, an existing Digester Tank, an existing Liquid Fertilizer Storage Tank, an existing open lagoon, a new 500 kw lean burn engine/generator set, an existing back-up utility flare, and an existing Supervisory Control and Data Acquisition (SCADA) system.

Receiving and Feedstock Tanks (EU3 and EU4)

Liquid SSO derived feedstock is delivered to the Facility via tanker trucks with maximum capacities of 9,000 gallons each. The SSO is either pumped from the truck into the existing 50,000 gallon Feedstock Tank, designated as Emission Unit 4 (EU4) or gravity fed into the existing 10,000 gallon Receiving Tank (EU3).

SSO is pumped from EU3 into EU4. The SSO in EU4 and the cow manure are introduced separately into the existing 500,000 gallon Digester Tank (EU5), where they are mixed together and heated to an optimum temperature.

Air in the headspace of EU3 Tank passes through two (2) activated carbon drums in series to remove potential odors as the headspace air is displaced during SSO filling operations. EU3 covers remain closed during all other times to minimize potential for odor. Sniff tube sampling ports are located at the inlet and outlet of each carbon drum. Initially, the carbon media in both drums is brand new. After the first drum has become saturated, it is removed and the second drum becomes the primary odor control device; a fresh second activated carbon drum is then added, and the odor monitoring process is repeated. (See Special Terms and Conditions 7.)

EU4 is a 50,000 gallon capacity, insulated, bolted steel tank approximately 16 feet in diameter. A side-entry prop mixer is utilized to prevent the stratification of its contents and to ensure a consistent mix for feeding to EU5 (see below). EU4 has a gas tight steel roof. A pipe connecting the headspace from EU4 with EU5 maintains equalized gas pressure in the system, with the added benefit of controlling odors from any displaced gas occurring due to filling/discharge or temperature expansion of contained feedstock material. EU4 also provides a hydraulic storage buffer of up to 3 days of capacity for EU5. Biomass from EU4 is periodically supplied to EU5 so as to maintain the required solids/liquids/nutrients ratios in EU5.

Digester Tank (EU5)

EU5 provides a mean hydraulic retention time of approximately 33 days, which is necessary to allow methanogenic bacteria to convert approximately 48% of the organic biomass into biogas. The material in EU5, called digestate, is heated to maintain an ideal temperature of approximately 100 degrees Fahrenheit (^{o}F). The actual EU5 temperature is maintained in the range of 90 - 105 ^{o}F via a heat exchanger using waste heat from the new 500 kw engine/generator for optimal digestion.

EU5 is a 60 foot diameter, insulated, bolted, steel tank 30 feet tall with a working volume of 500,000 gallons. Side-entry prop mixers are used to prevent stratification of any material inside EU5, ensuring a consistent mix. The conditioned biomass from EU4 is fed into EU5 at a turbulence zone created by the mixer to minimize the time required to obtain a complete mix.

Biogas storage in EU5 occurs within the single membrane roof system that inflates and deflates according to the amount of biogas therein. Safe pressure levels are maintained by a water trap mounted to EU5 that allows gas to release if the gas pressure is higher than 2.5 inches water column (" wc) or -2.5" wc negative pressure.

During the initial commissioning of the AD system prior to commencement of biogas production, the membrane was supported by a column and cable system to keep it from contacting the biomass. This system also supports a net which provides a surface area for the colonization of natural aerobic bacteria to convert hydrogen sulfide (H_2S) in the biogas to elemental sulfur and sulfates. To support the process of biologically oxidizing H_2S with aerobic bacteria, small amounts of air is dosed into the headspace of EU5. The dosage rate is controlled by the amount of oxygen measured in the cleaned biogas so that it is maintained between 0.2 and 1% by volume. Oxygen is only be added once methane concentrations are approaching equilibrium. Until then, oxygen from the EU5 headspace and simple oxygen containing compounds in the food source, such as fatty acids and aldehydes, can supply the oxygen necessary.

Effluent Management System

The liquid effluent is stored on-site in the 1,000,000 gallon open slurry storage tank and the existing open lagoon. This material is used as a fertilizer at Jordan Dairy Farms and other local farms. This liquid fertilizer has a reduced odor potential in comparison with the previous practice of using raw cow manure from the open lagoon via direct land application in the spring and fall. All digested material is stored on site for land application.

Replacement Engine and Existing Back-up Utility Flare (EU1 and EU2)

Biogas from EU5 serves as fuel for the new Dresser-Rand Guascor HGM 240, IC-G-B-24-112 engine, designated as EU1. The biogas contains approximately 607 British thermal units per standard cubic foot (Btu/scf) of gas. The methane concentration in the biogas is about 60% by volume. The existing shrouded back-up utility flare combusts the biogas whenever the engine is down for maintenance.

EU1 has a maximum heat input capacity of 4,450,000 British thermal units per hour (Btu/hr). This engine combusts up to 122 standard cubic feet per minute (scfm) of digester gas at 100% load. EU1 is equipped with a 9-inch diameter vertical stack. The opening of this vertical stack is 18 feet above the engine enclosure and 29 feet above ground level. The maximum exhaust gas exit velocity from EU1 is 87 feet per second at a stack gas temperature of approximately 780 degrees Fahrenheit (^{o}F).

The existing LFG Specialties Model No. CFT32014 utility flare, or EU2, has a maximum heat input capacity of 7,300,000 Btu/hr. This back-up flare is capable of combusting up to 200 scfm of digester gas with a turndown ration of 10:1. EU2 is equipped with a 27.5-inch diameter vertical exhaust, the top of which is situated 20 feet above ground level. The maximum exhaust gas exit velocity from EU2 is 40 feet per second at a stack gas temperature of approximately 1,800 ^{o}F.

SCADA System

The existing Supervisory Control and Data Acquisition (SCADA) system monitors process control parameters such as digester temperature, digester gas biogas pressure, mixer on/off, pumps, control of heating zones in heat exchanger, and output generation from the engine/generator set as well as methane content, carbon dioxide content, and hydrogen sulfide content of the biogas which is combusted in EU1. In addition, the SCADA system allows an operator to control all system functions by remote access. The SCADA system as well as the process tanks, effluent management system, and biogas processing equipment (i.e. EU1, EU2) are serviced by local technicians in the area. An inventory of spare parts for the entire facility is kept at an offsite location within two hours of the Facility.

2. EMISSION UNIT (EU) IDENTIFICATION

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

Table 1

EU#	Description	Design Capacity	Pollution Control Device (PCD)
EU1	New Guascor Model No. HGM 240, IC-G-B-24-112 engine	4.45 MMBtu/hr 500 kw max output	Fuel Injection modification; turbocharging
EU2	Existing LFG Industries Model No. utility flare	7.3 MMBtu/hr	None
EU3	Existing Receiving Tank	10,000 gallons	Two activated carbon drums in series
EU4	Existing Feedstock Tank	50,000 gallons	Aerobic bacteria for H_2S Control
EU5	Existing Digester Tank	500,000 gallons	
EU6	Existing Liquid Fertilizer Storage Tank	1,000,000 gallons	None

Table 1 Key:
EU# = Emission Unit Number
PCD = Pollution Control Device
max = maximum
H_2S = Hydrogen Sulfide
MMBtu/hr = million British thermal units per hour
kw = kilowatt

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2 below:

Table 2

EU#	Operational / Production Limit	Air Contaminant	Emission Limit
EU1[a]	NA	NO_x	1.85 lbs/MW-hr; 0.34 TPM; 4.1 TPY
		CO	5.54 lbs/MW-hr; 1.02 TPM; 12.2 TPY
		VOC	2.2 lbs/MW-hr; 0.4 TPM; 4.8 TPY
		$PM/PM_{10}/PM_{2.5}$	0.27 lb/MW-hr; 0.05 TPM; 0.6 TPY

Table 2			
EU#	**Operational / Production Limit**	**Air Contaminant**	**Emission Limit**
		SO_2[b]	0.5 lb/MW-hr; 0.1 TPM; 1.1 TPY
EU1[a]	Daily average of H_2S shall be less than or equal to 200 ppm_v [c]	H_2S[b]	NA
	NA	CO_2	1780 lbs/MW-hr; 325 TPM; 3900 TPY
		Opacity	<5%, except 5 to <10% for ≤2 minutes during any one hour
		Smoke	310 CMR 7.06(1)(a)
EU2	Maximum of 876 hours of operation over any consecutive twelve month rolling period	NO_x	0.5 lb/hr; 0.04 TPM; 0.2 TPY
		CO	2.7 lbs/hr; 0.2 TPM; 1.2 TPY
		VOC	1.1 lbs/hr; 0.08 TPM; 0.45 TPY
		$PM/PM_{10}/PM_{2.5}$	0.07 lb/hr; 0.006 TPM; 0.03 TPY
		SO_2[b]	0.4 lb/hr; 0.03 TPM; 0.18 TPY
	Daily average of H_2S shall be less than or equal to 200 ppm_v [c]	H_2S[b]	NA
	Maximum of 876 hours of operation over any consecutive twelve month rolling period	CO_2	1455 lbs/hr; 108 TPM; 640 TPY
		Opacity	<5%, except 5 to <10% for ≤2 minutes during any one hour
		Smoke	310 CMR 7.06(1)(a)
Facility-wide	NA	NO_x	0.38 TPM; 4.3 TPY
		CO	1.22 TPM; 13.4 TPY
		VOC	0.48 TPM; 5.25 TPY
		$PM/PM_{10}/PM_{2.5}$	0.056 TPM; 0.63 TPY
		SO_2[b]	0.13 TPM; .1.28 TPY
		H_2S[b]	NA
		CO_2	433 TPM; 4540 TPY

Table 2 Key:
EU# = Emission Unit Number
NA = not applicable
NO_x = Nitrogen Oxides
CO = Carbon Monoxide
SO_2 = Sulfur Dioxide
PM = Total Particulate Matter
PM_{10} = Particulate Matter less than or equal to 10 microns in diameter
$PM_{2.5}$ = Particulate Matter less than or equal to 2.5 microns in diameter
VOC = Volatile Organic Compounds
H_2S = Hydrogen Sulfide
Single HAP = maximum single Hazardous Air Pollutant

Total HAPs = total Hazardous Air Pollutants.
CO_2 = Carbon Dioxide
ppm_v = part per million by volume
lbs/hr = pounds per hour
lbs/MW-hr = pounds per megawatt hour output
TPM = tons per month
TPY = tons per consecutive12-month period
[a] = These emission limitations shall apply at all engine/generator loads.
Compliance with these emission limitations shall be determined based on hourly averages, with the exception of H_2S which shall be based on daily averages.
These emission limits are based upon biogas containing 607 British thermal units per standard cubic foot.
[b] = H_2S emissions are regulated by restricting the inlet H_2S concentrations to the engine and flare to less than or equal to 200 ppm_v. SO_2 emissions are based upon 99.5 percent oxidation of the inlet H_2S concentrations to the engine and the flare.
[c] = when the gas monitoring system is not operational, Draeger tubes will be utilized 3 times per week to document that the weekly average is less than or equal to 200 ppm_v

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5 below:

Table 3

EU#	Monitoring and Testing Requirements
EU1	1. The Permittee shall conduct a noise survey (during daytime and nighttime operation), which is in accordance with MassDEP guidelines, to demonstrate that the noise impacts from the operation of EU1 are in compliance with Regulation 310 CMR 7.10 and the Bureau of Waste Prevention's Noise Policy No. 90-001 (copy attached). This survey shall be conducted within forty-five (45) days of the issuance of this Plan Approval. The noise survey results shall be submitted to MassDEP's Northeast Regional Office (NERO), in writing, attention BWP Permit Chief, within thirty (30) days, thereafter.
	2. The Permittee shall conduct emissions testing for NO_x, CO, H_2S, VOC, SO_2, and CO_2 on this EU within 90 days of the issuance of this Plan Approval. All compliance testing shall be conducted in accordance with the test methods and procedures set forth in 40 CFR 60, Appendix A. All compliance testing shall be witnessed by MassDEP personnel at a mutually agreeable date and time.
	3. For compliance testing purposes, this EU shall be able to accommodate the emissions testing requirements as stipulated in 40 CFR Part 60, Appendix A. The two (2) inlet and two (2) outlet sampling ports should ideally be located at two duct diameters upstream and eight duct diameters downstream of any flow disturbance. The corresponding sampling ports should be 90 degrees apart from each other.
EU1 EU2	4. The Permittee shall monitor the daily, monthly, and twelve month rolling biogas consumption for each EU to document compliance status with the emission limitations contained in Tables 2 and 3 above.
EU2	5. The Permittee shall monitor the monthly and twelve month rolling hours of operation.

Table 3	
EU#	**Monitoring and Testing Requirements**
EU1 EU2 EU5	6. The Permittee shall monitor daily the maximum and minimum hydrogen sulfide concentrations (in ppm by volume) exiting EU5 before the biogas is combusted in either EU1 or EU2 to document compliance with the emission limitations contained in Tables 2 and 3 above. In the event that the H_2S gas monitoring probe/system is offline for maintenance, repair, or an unexpected malfunction, the H_2S concentrations shall be measured at least three times a week using a Draeger tubes and the weekly values shall be averaged until such time as the H_2S gas monitoring probe is back on-line. Draeger tubes shall not be utilized for more than a total of a month during any twelve month period unless MassDEP authorizes such use in writing.
EU3	7. The Permittee shall monitor daily the amount of SSO that EU3 receives.
	8. Each SSO delivery tank truck driver shall be trained in the proper operation of the activated carbon system for EU3.
	9. The Permittee shall monitor the two activated carbon drums in series for breakthrough at least weekly. When breakthrough has occurred, the Permittee shall install a new activated carbon drum with the remaining secondary drum becoming the primary drum in the control train to ensure proper odor control.
EU4	10. The Permittee shall monitor daily the amount of SSO that EU4 receives.
EU5	11. The Permittee shall monitor the oxygen (O_2) content weekly in EU5 to ensure that the amount of O_2 measured in the cleaned biogas averages between 0.2 and 1% by volume.
Facility-wide	12. The Permittee shall conduct additional emissions testing on the subject units if MassDEP deems it necessary as per 310 CMR 7.13 – Stack Testing. All emissions testing shall be performed in accordance with USEPA Reference Test Methods and Regulation 310 CMR 7.13.

Table 3 Key:
EU# = Emission Unit Number
SSO = source separated organics (i.e. food waste)
O_2 = Oxygen
NO_x = Nitrogen Oxides
CO = Carbon Monoxide
SO_2 = Sulfur Dioxide
VOC = Volatile Organic Compounds
H_2S = Hydrogen Sulfide
CO_2 = Carbon Dioxide

Table 4	
EU#	**Record Keeping Requirements**
EU1 EU2 EU3 EU4 EU5	1. The Permittee shall quantify all periods of excess emissions, even if attributable to an emergency/malfunction, startup/shutdown or equipment cleaning in the determination of annual emissions and compliance with the emission limits contained in Table 2.
	2. The Permittee shall continue to maintain an on-site record keeping system for these EUs. All such records shall be maintained up-to-date such that year-to-date information is readily available for MassDEP examination upon request. Record keeping shall, at a minimum, include: a) Compliance records sufficient to document that the actual monthly and twelve month rolling emission rates of NO_x, CO, VOC, total PM, SO_2, H_2S, and CO_2 from each EU. Such records shall include, but are not limited to, the daily, monthly, and twelve month rolling biogas consumption rates for each applicable EU, emissions test results, monitoring equipment data and reports, and hours of operation. b) Maintenance: A record of routine maintenance activities performed on these EUs and their monitoring equipment including, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed. c) Malfunctions: A record of all malfunctions of these EUs and their monitoring equipment including, at a minimum: the date and time the malfunction occurred; a description of the malfunction and the corrective action taken; the date and time corrective actions were initiated; and the date and time corrective actions were completed and the equipment was returned to compliance.
	3. The Permittee shall maintain a copy of all noise survey results on-site.
EU2	4. The Permittee shall maintain onsite records of the monthly and twelve month rolling hours of operation.
EU1 EU2 EU5	5. The Permittee shall maintain daily on-site records of the maximum, minimum, and estimated average hydrogen sulfide concentrations (in ppm by volume) exiting EU5 before the biogas is combusted in either EU1 or EU2 to document compliance status with the emission limitations contained in Table 2 above. Whenever the gas monitoring system is offline for maintenance, repair, or an unexpected malfunction, Draeger tubes shall be utilized at least 3 times a week and the measured values and weekly averages shall be maintained on-site.
EU3	6. The Permittee shall maintain daily records on-site of the amount of SSO that EU3 receives.
	7. Each tank truck driver shall record the date, time, and delivery amount of SSO as well as sign off that the activated carbon system for EU3 was utilized properly prior to feeding the SSO to EU3. This information shall be recorded in a logbook, or similar record keeping system, that shall be maintained adjacent to EU3.
	8. The Permittee shall maintain weekly records on-site of the condition of the activated carbon system and of replacement of the activated carbon when breakthrough has occurred.
EU4	9. The Permittee shall maintain daily records on-site of the amount of SSO that EU4 receives.
EU5	10. The Permittee shall maintain weekly records on-site of the oxygen (O_2) content in EU5.

Table 4	
EU#	**Record Keeping Requirements**
Facility-wide	11. The Permittee shall maintain adequate records on-site to demonstrate compliance status with all operational, production, and emission limits contained in Table 2 above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve month period (current month plus prior eleven months). These records shall be compiled no later than the 15th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at http://www.mass.gov/eea/agencies/massdep/air/approvals/limited-emissions-record-keeping-and-reporting.html.
	12. The Permittee shall maintain records of monitoring and testing as required by Table 3.
	13. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the EU(s) and PCDs approved herein on-site.
	14. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.
	15. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.

Table 4 Key:
EU# = Emission Unit Number
PCDs = Pollution Control Devices
SOMP = Standard Operating and Maintenance Procedure
USEPA = United States Environmental Protection Agency

Table 5	
EU#	**Reporting Requirements**
EU1	1. The Permittee shall submit a compliance test protocol for the required initial compliance test to MassDEP's Northeast Regional Office (NERO) for review and approval at least 30 days prior to the scheduled commencement of said testing. Test protocols for any subsequent required emissions testing shall be submitted to MassDEP's Central Regional Office (CERO) for review and approval at least 30 days prior to the scheduled commencement of said testing.
	2. The Permittee shall submit the initial emission test results report to NERO for review within 45 days of the completion of any required compliance stack testing. All subsequent emission test results reports shall be submitted to CERO.

Table 5	
EU#	**Reporting Requirements**
EU1 EU2 EU3 EU4 EU5	3. The noise survey results shall be submitted to NERO, in writing, attention BWP Permit Chief, within seventy-five (75) days of issuance of this Plan Approval.
	4. The Permittee shall submit the Final Standard Operating and Maintenance Procedures (SOMP) for these EUs to NERO within 60 days of completion of their required initial compliance testing. Any subsequent changes to the SOMP shall be submitted to CERO, within 15 days of said revision(s).
	5. The Permittee shall notify MassDEP's CERO by telephone, fax, or email as soon as possible, but in any case no later than one business day, and subsequently in writing within seven days, after the occurrence of any upsets or malfunctions to these EUs and related equipment which results in an excess emission to the air and/or a condition of air pollution.
	6. All notifications and reporting required and not specified by this Approval shall be made to: Department of Environmental Protection/Bureau of Waste Prevention 627 Main Street Worcester, Massachusetts 01608 ATTN: BWP Permit Chief Phone: 508-767-7650 Fax: 508-792-7683
EU1 EU2 EU5	7. The Permittee shall notify MassDEP's CERO, ATTN: BWP Permit Chief, within three (3) business days by fax at (508) 792-7683 of any exceedances of the H_2S emission limit found in Tables 2 and 3 above. In the same manner, the Permittee shall notify MassDEP whenever the H_2S gas monitoring probe is offline and again when it is back on-line.
Facility-wide	8. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a "Responsible Official" as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	9. The Permittee shall notify the Central Regional Office of MassDEP, BWP Permit Chief by telephone (508-767-7650), email, or fax 508-792-7683, as soon as possible, but no later than one (1) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to BWP Permit Chief at MassDEP within three (3) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).

Table 5 Key:
EU# = Emission Unit Number

4. SPECIAL TERMS AND CONDITIONS

The Permittee is subject to, and shall comply with, the following special terms and conditions:

A. The Permittee shall comply with the Special Terms and Conditions as contained in Table 6 below:

Table 6

EU#	Special Terms and Conditions
EU2	1. The Permittee shall equip the back-up flare with a shield such that there is no exposed flame as well as provide raptor protection.
Facility-wide	2. The Permittee shall operate the subject EUs consistent with the Final SOMP and the conditions/parameters established during the initial compliance test.
	3. The Permittee shall operate and maintain the installed standard grade silencer on the new 500 kw engine/generator set (EU1). In the event that the results of the noise survey indicate a violation of the Massachusetts Noise Policy, the Permittee shall replace this silencer with a critical grade silencer and shall install any necessary acoustic noise suppression for the air intake louvers and the air exhaust louvers of EU1. All of the approved equipment was installed in accordance with the requirements of the Administrative Consent Order, ACO-NE-13-7003, which was issued on December 20, 2013.
	4. The Permittee shall perform the following actions for the purpose of controlling odors from material handling and processing: i. Maintain proper operation and maintenance of an activated carbon system involving two activated carbon drums in series to control emissions of odors from filtered SSO receiving operations; ii. Receiving Tank openings during the load-in of SSO shall be minimized; iii. Headspace from the Feedstock Tank and the Digester Tank shall be connected to allow all potential odors to be captured and diverted to either EU1 or EU2 under normal operating conditions.
	5. An inventory of spare parts for the entire anaerobic digestion facility shall be kept at an offsite location for use within two hours of the facility.
	6. This Plan Approval, NE-13-017, supersedes the Conditional Approval, MBR-10-COM-004, issued to the Permittee on August 18, 2010, in its entirety. However, all plan application materials submitted as part of Approval MBR-10-COM-004 become part of Plan Approval No. NE-13-017.

Table 6	
EU#	**Special Terms and Conditions**
Facility-wide	7. The Permittee shall submit a standard operations and maintenance plan for the activated carbon system as well as the aerobic bacteria to MassDEP's NERO, ATTN: BWP Permit Chief within sixty (60) days of issuance of this Plan Approval. This plan shall be implemented and followed immediately upon startup of the facility and, at a minimum, include the following information: i. A description of each system, including materials of construction and key operating parameter value(s) or range(s); ii. A description of how each said system will be operated and maintained, including a schedule for routine maintenance and material replacement, equipment specifications of the system's odorous air blower, and dimensions and location of each system; iii. A description of how each system's key operating parameters will be monitored and corrective actions performed if any key operating parameter(s) fall outside its (their) expected value(s) or range(s); iv. A description of any periodic sampling or testing performed on each system and emissions exiting it for odor-causing compounds; v. A description of how any system malfunctions will be reported to the MassDEP.
	8. This facility may be subject to the Federal New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines (40 CFR Part 60 Subpart JJJJ). Since MassDEP has not accepted delegation for Subpart Dc, you are advised to consult with the EPA for additional information. There may be additional notification, record keeping and reporting requirements. Their address is US EPA Region 1, 5 Post Office Square – Suite 100, Boston, MA 02109-3912.
	9. This facility may be subject to the Federal National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines (RICE) under 40 CFR Part 63 Subpart ZZZZ. This regulation includes stationary RICE units at an area source. Since MassDEP has not accepted delegation for Subpart ZZZZ, you are advised to consult with the United States Environmental Protection Agency (USEPA) for additional information. There may be additional notification, record keeping and reporting requirements. Their address is US EPA Region 1, 5 Post Office Square – Suite 100, Boston, MA 02109-3912.

Table 6 Key:
EU# = Emission Unit Number

B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including but not limited to rain protection devices known as "shanty caps" and "egg beaters." The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7 below, for the Emission Units that are regulated by this Plan Approval:

Table 7

EU#	Stack Height Above Ground (feet)	Stack Inside Exit Dimensions (feet)	Stack Gas Exit Velocity Range (feet per second)	Stack Gas Exit Temperature Range (^{o}F)
EU1	29	0.75	87	780
EU2	20	2.0	40	1800

Table 7 Key:
EU# = Emission Unit Number
^{o}F = Degree Fahrenheit

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).

B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.

C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.

D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.

E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.

F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.

G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.

H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.

I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.

J. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain "Fail-Safe Provisions," which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval. Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars ($100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.
MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Enclosed is a stamped approved copy of the application submittal.

Should you have any questions concerning this Plan Approval, please contact Mr. Mun Wong by telephone at 978-694-3286, or in writing at the letterhead address.

Sincerely,

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

Mun S. Wong
Environmental Engineer

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

James E. Belsky
Permit Chief
Bureau of Waste Prevention

cc: Board of Health, Rutland, MA 01543
Fire Headquarters, Rutland, MA 01543
MassDEP/Boston - Yi. Tian (E-Copy)
MassDEP/NERO – M. Wong, M. Altobelli, M. Persky
MassDEP/CERO – R. Stanley

Vreeland Design Associates, 116 River Road, Leyden, MA 01337 ATTN: Mr. David Vreeland
Tech Environmental, Inc., 303 Wyman Street, Suite 295, Waltham, MA 02451 ATTN: Mr. Michael T. Lannan